CURRICULUM VITAE

David B. Ashley Executive Vice Chancellor and Provost Shaffer-George Chair in Engineering University of California, Merced

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Research and Teaching Activities

Development and implementation of risk analysis techniques appropriate for project management and construction engineering decisions serve as central research themes. Extensive work performed in developing and testing risk management responses to potential sources of cost overruns. Other research efforts include determination of factors leading to construction project success, predictive models of project performance, assessment of project change consequential effects, project scope modeling and definition, conceptual estimating, and innovative project financing approaches. Recent subject areas taught include Project Risk Management, Project Evaluation and Financing, Engineering Project Management, Construction Management and Engineering Economy, and Professional Practice in Civil and Environmental Engineering.

Educational Data

B. S. in C. E., Massachusetts Institute of Technology, 1973

M. S. in C. E., (Project Management), Massachusetts Institute of Technology, 1974

M. S. in Engineering - Economic Systems, Stanford University, 1975

Ph.D. in C. E., (Construction Engineering and Management) Stanford University, 1977

Experience

Dean, College of Engineering, The Ohio State University, November 1997 to 2001.

University of California at Berkeley, Professor of Civil Engineering, August 1989 - October 1997. Chair of Civil and Environmental Engineering Department, June 1993 – October 1997. Technical area (Construction) group leader 1989 to 1993.

University of Texas at Austin, September 1982 to August 1989. Associate Chairman of Civil Engineering Department, September 1988 to August 1989. Professor of Civil Engineering, September 1988 to August 1989. Associate Professor of Civil Engineering, September 1982 to August 1988.

Massachusetts Institute of Technology, 1977 to 1982. Teaching and Research in Graduate Construction Engineering and Project Management Program. Assistant Professor of Civil Engineering, August 1977 to August 1981. Associate Professor of Civil Engineering, September 1981 to August 1982.

Experience (continued)

Guy F. Atkinson Company, 1975 to 1977. South San Francisco, CA, Special Studies Analyst - Performed internal consultant role within the areas of Engineering, Estimating, Financial Planning, Information Systems and Legal Claims analysis

University of Santa Clara, 1976 to 1977. Teaching in graduate Engineering Management Program.

Visiting Faculty or Scholar Positions

The Danish Technical University, Lyngby, Denmark, 1982 (summer).

University of Stellenbosch, Stellenbosch, South Africa, 1984 (summer) and 1985 (summer).

Chalmers Technical University, Gothenburg, Sweden, 1984 (November).

Royal Swedish Institute of Technology, Stockholm, Sweden, 1985 (May).

Construction Management Program of the Universities of Capetown, Pretoria and Stellenbosch; Republic of South Africa; 1984 (summer) and 1985 (summer).

Catholic University of Chile, Santiago, Chile, 1988 (July)

Nanyang Technological University, Singapore, Visiting Lecturer, 1990 (January) to 2002.

Honors, Awards and Professional Registration

Registered Professional Engineer, Texas

Sloan Traineeship - Massachusetts Institute of Technology

Construction Institute Fellowship and U. S.. Steel Fellowship - Stanford University

Distinguished Advisor Award - Architectural Engineering, The University of Texas at Austin, 1984

National Science Foundation, Presidential Young Investigator Award, 1984-1989

Fluor Centennial Teaching Fellowship #2 - The University of Texas at Austin, 1985 to 1988.

Award of Excellence, Halliburton Education Foundation, University of Texas Engineering Foundation Award, 1985

Ervin S. Perry Student Appreciation Award, The University of Texas at Austin, 1986.

Phil M. Ferguson Prof. of Civil Engineering, The University of Texas at Austin, September 1988 to August 1989.

American Society of Civil Engineers, Construction Management Award, 1992.

Taisei Endowed Chair in Civil Engineering, 1993 to 1997.

The John C. Geupel Chair in Civil Engineering, 1997 to 2001.

Shaffer-George Chair in Engineering, University of California, Merced, 2001 to present.

Honors, Awards and Professional Registration (continued)

Doctor of Technology (honoris causa), Chalmers University of Technology, Göteborg, Sweden, May 2000.

American Society of Civil Engineers, Peuifoy Construction Research Award, 2004.

Technical Committee and Professional Activities

National Academy of Science, Government-University-Industry Research Roundtable, Working Grp 1: Capacity of Academic Science and Engineering - Identification, Recruitment, and Retention of Talent.

NSF Committee to Evaluate Continuation of Presidential Young Investigator Award Program

NSF Review Panel on Engineering Initiation Grant Program.

American Society of Civil Engineers - Member.

American Society of Civil Engineers, Construction Research Council.

American Society of Civil Engineers, Specialty Conference Steering Committee.

American Arbitration Association, Panel of Construction Arbitrators.

Designated "Expert" for International Project Management Association Expert Seminar in Zurich, Switzerland.

External reviewer for Civil and Environmental Engineering Department, University of Michigan, Ann Arbor, April 1994.

National Academy of Engineering, "Frontiers of Engineering" Symposium Planning Comm., 1995-96.

Building Futures Council, Member 1995 to present.

External reviewer for Civil Engineering Department, University of British Columbia, February 1997.

External reviewer for Civil and Environmental Engineering Department, Stanford University, Fall 1997.

External reviewer for Civil Engineering Department, Virginia Tech, Spring 1998.

International Advisory Board, International Symposium on Project Management 1997 - Risks in Projects and Project Oriented Business, Helsinki, Finland, September 1997.

International Advisory Panel, Second International Conference on Construction Project Management, January 1998.

American Society of Engineering Education, Engineering Deans' Council, Member, Public Policy Committee 1999-2001.

Chair, Ohio Engineering Deans' Council, October 1999-October 2001.

Technical Committee and Professional Activities (continued)

External reviewer for Faculty of Applied Science and Engineering, University of Toronto, March 2000.

American Society of Engineering Education, Engineering Deans' Council, Member, Executive Board 2000-2001.

FAA - Research, Engineering, Development Advisory Committee (Congressionally mandated), 2000-present. (Acting Chair 2003).

Publications

Refereed/Archival

"Pre-Estimate Cash Flow Analysis" (with Paul M. Teicholz), *J. Construction Div.*, ASCE, vol. 103, no. CO3, Proc. Paper 13213, Sept. 1977, pp. 369-379.

"Simulations of Repetitive-Unit Construction," *J. Construction Div.*, ASCE, vol. 106, no. CO2, Proc. Paper 15495, June 1980, pp. 185-194.

"Allocating Risk and Incentive in Construction" (with Raymond E. Levitt and Robert D. Logcher), *J. Construction Div.*, ASCE, vol. 106, no. CO3, Proc. Paper 15710, Sept. 1980, pp. 297-305.

"Coordinated Insurance for Major Construction Projects," *J. Construction Div.*, ASCE, vol. 106, no. CO3, Proc. Paper 15697, Sept. 1980, pp. 307-313.

"Construction Joint Ventures," *J. Construction Div.*, ASCE, vol. 106, no. CO3, Proc. Paper 15698, Sept. 1980, pp. 267-280.

"Critical Decision Making During Construction (with Kazuyoshi Uehara and Burke E. Robinson), *J. Construction Eng. and Management*, ASCE, vol. 109, no. 2, June 1983, pp. 146-162.

"Influence Diagramming for Analysis of Project Risks" (with Ivars Avots), *Project Management Journal*, March 1984, pp. 56-62.

"Owner-Controlled Insurance Programs for Underground Construction," *Underground Space*, Pergamon Press, vol. 8, no. 2, March-April 1984, pp. 111-116.

"Countertrade Financing: Historical Example" (with M. Benjamin Wharry), *J. Construction Engineering and Management*, ASCE, vol. 113, no. 1, March 1987, pp. 117-124.

"Determinants of Construction Project Success" (with Clive S. Lurie and Edward J. Jaselskis), *Project Management Journal*, vol. XVIII, no. 2, June 1987.

"Political Risks in International Construction" (with J.J. Bonner), *Construction Engineering and Management*, ASCE, vol. 113, no. 3, Sept. 1987, pp. 447-467.

"Impact of Various Construction Contract Clauses" (with C. William Ibbs), *Construction Engineering and Management*, ASCE, vol. 113, no. 3, Sept. 1987, pp. 501-517.

Publications (continued)

"Prototipo de Sistema Experto para la Investigacion del Subsuelo" (with M. Benjamin Wharry), *Apuntes de Ingenieria* 28, July-September 1987, pp. 59-73.

"Expert Systems in Construction: Work in Progress" (with Raymond E. Levitt), *J. Computing in Civil Engineering*, ASCE, vol. 1, no. 4, Oct. 1987, pp. 303-311.

"Contract Risk Allocation and Cost Effectiveness," *Construction Industry Institute Publication 5-3*, November 1988.

"Optimal Allocation of Project Management Resources for Achieving Success" (with Edward J. Jaselskis), *Journal of Construction Engineering and Management, ASCE*, Vol. 117, No. 2, June 1991.

Lunar Base Construction Equipment and Methods Evaluation" (with Walter W. Boles and Richard L. Tucker), *Journal of Aerospace Engineering*, American Society of Civil Engineers, Vol. 6, No. 5, pp. 217-235, July 1993.

"A Tutorial in Project Risk Analysis by Normative Decision-Modeling" (with Takayuki Minato), *Journal of Construction Management and Engineering (Japan)*, No. 522/VI-28, September 1995.

"A Risk Analysis Methodology for Corporate Management Options" (with Takayuki Minato), *Journal of Construction Management and Engineering (Japan)*, No. 522/VI-28, September 1995.

"Modeling Project Performance in Decision Making" (with Luis F. Alarcón), ASCE, Journal of Construction Engineering and Management, Vol. 122, No. 3, September 1996, pp. 265-273

"Use of Simulation in Crew Balancing and Resource Allocation for Multiple-Unit Housing Construction," *Proc.*, Int. Assn. of Housing Science Conf. 1978; Housing Problems in Developing Countries, vol. 1, John Wiley & Sons, Chichester, England, 1978, pp. 558-567.

"Advantages and Limitations of Adaptable Tunnel Design and Construction Methods" (with Herbert H. Einstein and Edward C. Tse), Chapter 57 in *Proc.*, Rapid Excavation and Tunneling Conf., Atlanta, Georgia, June 1979, pp. 989-1011.

"Geological Prediction and Updating in Tunneling - A Probabilistic Approach" (with D. Veneziano, H.H. Einstein and M.H. Chan), 22nd U.S. Symposium on Rock Mechanics, June 29-July 1, 1981, Massachusetts Institute of Technology, Cambridge, MA.

"Construction-Risk Estimating in Developing Countries" (with Tadashi Higashi), *Proc.*, Third Int. Symposium on Organization and Management of Construction, CIB, W-65, July 6-8, 1981, Dublin, Ireland, pp. C.2.82-C.2.100.

"Construction Project Risks: Mitigation and Management," *Proc.*, Project Management Institute/Internet Joint Symposium, Sept. 28-30, 1981, Boston, MA, pp. 331-340.

"Financial Risk Management for Underground Construction," Chapter 77 in *Proc.*, Rapid Excavation and Tunneling Conference, Chicago, IL, June 1983, pp. 1203-1217.

Publications (continued)

"Construction Project Risks: Mitigation and Management," *Engineering Advancement Association of Japan (ENAA) Journal*, Winter 1983-84, pp. 36-46,

"An Intelligent Construction Risk Identification System," *Proc.*, 6th Int. Symp of Offshore Mechanics and Arctic Eng., Houston, TX, March 1-5, 1987, ASME Paper No. OMAE-87-337.

"An Implementation Strategy for Improving Project Control Systems" (with C. William Ibbs, James M. Neil and Frank Feiler), Project Controls: Needs and Solutions, *Proc.*, Construction Division Specialty Conference, ASCE, ed. by C. William Ibbs and David B. Ashley, June 8-9, 1987, pp. 101-112.

"Combining Multiple Expert Assessments for Construction Risk Identification" (with Sara L. Stokes and Y-H Perng), *Proc.*, 7th Int. Symp. Offshore Mechanics and Arctic Eng., Houston, TX, February 7-12, 1988, ASME Paper No. OMAE-88-420A.

"A Methodology for Modeling Construction Requirements for a Manned Lunar Base" (with Walter Boles), *Proc.*, ASCE Conf: Space 88, Engineering, Construction and Operations in Space, August 29-31, 1988, Albuquerque, NM, 11 pp.

"Achieving Construction Project Success Through Predictive Discrete Choice Models" (with Edward Jaselskis), *Proceedings, INTERNET* '88, *The Ninth World Congress on Project Management*, September 4-9, 1988, Glasgow, Scotland.

"Integrating Expert Judgment into Conceptual Estimating" (with Alfredo Serpell and Choon Hoe Tan), *Proc.*, Project Management Institute 1988 Seminar/Symposium, Sept. 17-21, 1988, San Francisco, CA.

"Project Risk Identification Using Inference, Subjective Expert Assessment and Historical Data," *Internet Expert Seminar on Project Risk Management*, Atlanta, GA, October 1989.

"A Construction Operations Study for an Evolutionary Lunar Base" (with Lisa Bell and Walter Boles), *Proc.*, Engineering, Construction, and Operations in Space International Conference, ASCE, Albuquerque, NM, April 22-26, 1990.

"Enhancing Decision Analysis Techniques for Lunar Base Construction Research (with Walter W. Boles), *Proceedings*, ASCE Conference Space 92, Engineering, Construction, and Operations in Space, ASCE, Denver, CO, May 31-June 4, 1992.

"A Modeling Approach to Predict Project Performance" (with Luis F. Alarcón), *Proceedings, Project Management Institute 24th Annual Seminar/Symposium*, San Diego, CA, October 1-7, 1993, pp. 105-110.

"Modeling Project Team Strategies in Construction Projects" (with Luis F. Alarcón), *Proceedings of the First European Conference on Product and Process Modelling in the Building Industry*, pp. 54, Dresden, Germany, October 5-7, 1994.

"The Need and Requirements for Project Performance Models" (with L. F. Alarcón), *Proceedings of the First European Conference on Product and Process Modelling in the Building Industry*, Dresden, Germany, October 5-7, 1994, pp. 53.

Publications (continued)

"Computer-Aided Project Decision Making" (with L. F. Alarcón, P. Venegas, and A. Bastías), *Proceedings, 2nd International Conference on Computing in Civil Engineering, American Society of Civil Engineers, ASCE, Atlanta, USA, June 7-10, 1995, pp. 1553-1560.*

"Cross-Impact Methodology for Project Decision Making" (with Luis F. Alarcón). CERRA ICASP-7, 7th International Conference on Application of Statistics and Probability, Paris, France, July 10-13, 1995.

"Cognitive Aspects of Influence Diagram Modeling" (with Luis F. Alarcón), *Proceedings, 6th International Conference on Computing in Civil and Building Engineering*, Berlin, Germany, July 12-15, 1995.

"Computer Implementation of the Impact of Early-Planning Decisions on Project Performance" (with Nadia Akel, Chih-Che Tsai and Paul Teicholz), *Proceedings of the COBRA '96 Conference - The Construction and Research Conference of the Royal Institution of Chartered Surveyors*, Bristol, U.K., September 19-20, 1996.

"The Impact of Early-Planning Decisions on Project Performance" (with Nadia Akel, Chih-Che Tsai and Paul Teicholz), CIB, 3rd International Symposium on the Applications of the Performance Concept in Building, Tel Aviv, Israel, December 9-12, 1996.

"Data-Driven Analysis of 'Corporate Risk' Using Historical Cost-Control Data" (with Takayuki Minato), *Journal of Construction Engineering and Management, ASCE*, Vol. 124, No. 1, January/February 1998, pp. 42-47.

"Evaluation and Competitive Tendering of BOT Power Plant Project in China" (with Shou Qing Wang, R.L.K. Tiong, Seng Kiong Ting and David Chew), *Journal of Construction Engineering and Management, ASCE*, Vol. 124, No. 4, July/August 1998, pp. 333-341.

"Evaluating Viability of Privatized Transportation Projects" (with Richard Bauman, Jim Carroll, James Diekmann and Frank Finlayson), *Journal of Infrastructure Systems*, *ASCE*, Vol. 4, No. 3, September 1998, pp. 102-110.

"Risk Management of Shanghai's Privately-Financed Yan'an Donglu Tunnels" (with W.R. Zhang, S.Q. Wang, R.L.K. Tiong, and S.K. Ting), *Journal of Engineering, Construction and Architectural Management*, Vol. 5, December 1998, pp. 399-409.

"Risk Management Framework for BOT Power Projects in China" (with Shou Qing Wang, R.L.K. Tiong and S.K. Ting), *The Journal of Project Finance*, Vol. 4, No. 4, Winter 1999, pp. 56-67.

"Playing Games: Evaluating the Impact of Lean Construction Strategies on Project Cost and Schedule" (with Luis F. Alarcón), Tommelein, I. (ed.), *Proceedings IGLC-7*, University of California, Berkeley, July 1999, pp. 263-274.

"The Impact of Planning Strategies on Project Performance: Learning from Real and Model Projects" (with Luis F. Alarcón and Juan C. Cruz), Serpell, A. (ed.), *Proceedings of the CIB W92 Procurement System Symposium – Information and Communication in Construction Procurement*, Santiago, Chile, March 2000, pp. 329-344.

Other Publications

Construction Project Risk-Sharing, Department of Civil Engineering Technical Report No. 220, Stanford University, Stanford, California, July 1977.

A Quantitative Method for Analyzing the Allocation of Risks in Transportation Construction (with Raymond E. Levitt, Robert D. Logcher and Michael W. Dziekan), M.I.T. Department of Civil Engineering, Research Report No. R78-25, Publication No. 605, prepared for the U.S. Department of Transportation, Report No. UMTA-MA-06-0100-79-1, April 1979, 160 pp.

Options for Managing the Design and Construction of Mass Transit (with Raymond E. Levitt, Robert D. Logcher and James M. Wolahan), M.I.T. Department of Civil Engineering, Research Report R79-20, prepared for U.S. Department of Transportation, Urban Mass Transit Administration, May 1979.

Enhancing Construction Through State-of-the-Art Research (with Richard L. Tucker), prepared under Contract NSF CEE-8319806 for the National Science Foundation, The University of Texas at Austin, October 1984.

Goals Identification and Implementation in Construction Contracting (with Nana Boachie-Danquah), Research Report, Department of Civil Engineering, The University of Texas at Austin, June 1985, 219 pp.

Incentives in Construction Contracts (with B. Wayne Workman), Research Report UTCEPM-85-3, Department of Civil Engineering, The University of Texas at Austin, December 1985, 132 pp.

A Construction Project Risk Identification Relational Database (with Peter A. Bliudzius), Research Report UTCEPM-85-4, Department of Civil Engineering, The University of Texas at Austin, December 1985, 82 pp.

Resolving Subsurface Risk in Construction Using an Expert System (with Mark B. Wharry), Research Report UTCEPM-86-1, Department of Civil Engineering, The University of Texas at Austin, January 1986, 96 pp.

Contract Clause Study Data (with Joseph J. Mathews), Research Report UTCEPM-85-1, Department of Civil Engineering, The University of Texas at Austin, April 1986.

Analysis of Construction Contract Change Clauses (with Joseph J. Mathews), Research Report UTCEPM-85-2, Department of Civil Engineering, The University of Texas at Austin, Volume I, April 1986, 116 pp.

Analysis of Construction Contract Change Clauses (with Joseph J. Mathews), Research Report UTCEPM-85-2, Department of Civil Engineering, The University of Texas at Austin, Volume II, April 1986, 254 pp.

Impact of Various Construction Contract Types and Clauses on Project Performance, Construction Industry Institute Publications 5-1, July 1986. (This was a CII Contracts Task Force Report, C. William Ibbs was the principal author.)

Achieving Outstanding Construction Project Outcomes (with Rory A. Salimbene), Construction Engineering and Project Management Program, Report Number UTEPM-86-2, December 1986, 88 pp.

Publications (continued)

Project Controls: Needs and Solutions, co-edited with C. William Ibbs, American Society of Civil Engineers - Construction Division Special Publication, June 1987.

Impact of Risk Allocation and Equity in Construction Contracts (with Michael M. Parker and James R. Dunlop), Construction Industry Institute Source Document 44, March 1989.

A Pilot Study on Incentives (w/ Luis Alarcón), a report to the Construction Industry Institute, Nov. 1990.

A Cost Comparison of Contracting Out for Engineering Services by CALTRANS Versus In-House Engineering (with C. W. Ibbs, G. Ballard, S. Staneff, and C-H Kim), A Report to Caltrans, June 1992.

"The Risks of Remedial Actions: Why a 'Total Risk' Approach to the Selection of Remedy is Necessary" (with Sigrida Reinis), Construction Engineering and Management Program Working Paper.

Project Performance Modeling: A Methodology for Evaluating Project Execution Strategies (with Luis F. Alarcón), a report to the Construction Industry Institute, September 1992.

Public/Private Partnership Project Evaluation (with James E. Diekmann), A report to the Morrison Knudsen Corporation, August 1994.

Report on the Construction-Related Plant Upset at San Mateo Water Quality Control Plant, Summer 1994" (with D. Jenkins and P. A. Pitt), January 1995.

Management of the Construction Industry in Egypt--Seminar Proceedings, Editor, M.I.T./Cairo University, Technological Planning Program, Cairo, Egypt, January 1980.

"Resources and Contractors in Egypt: A Review" (with Tarek Selim), *Management of the Construction Industry in Egypt--Seminar Proceedings*, Cairo University/M.I.T., Technological Planning Program, Cairo, Egypt, January 1980, pp. 45-73.

"Contracts in Egyptian Construction" (with Tarek Selim), *Management of the Construction Industry in Egypt--Seminar Proceedings*, Cairo University/M.I.T., Technological Planning Program, January 1980, pp. 113-125.

"New Trends in Risk Management," New Approaches in Project Management, *Proc.*, 10th Int. Expert Seminar, International Project Management Association, Zurich, Switzerland, March 10-12, 1986, pp. 45-66.

"A Knowledge-Based Approach for End-Use Design Stresses in Wood" (with D.L. Wheat), *Proc.*, ASCE Spring Convention, Atlantic City, NJ, 1987.

"Knowledge-Based Approach to Construction Project Planning," New Trends in Project Management, *Proc.*, 11th Int. Expert Seminar, International Project Management Association, Zurich, Switzerland, April 2-4, 1987.

"Modeling Construction Requirements for a Manned Lunar Base" (with Walter Boles), *Symposium: Lunar Bases & Space Activities in the 21st Century*, April 5-7, 1988, Houston, Texas, Paper No. LBS-88-079, pp. 1-13.

Publications (continued)

"Delivering Liquid Oxygen to Low Earth Orbit" (with Curt Bilby and George McGlamery), *Symposium: Lunar Bases & Space Activities in the 21st Century*, April 5-7, 1988, Houston, Texas, Paper No. LBS-88-074...

"Moderator's Report on Workshop A: Methods of Risk Definition and Identification," *Internet Expert Seminar on Project Risk Management*, Atlanta, GA, October 1989.

"Financial Risk Management for Underground Construction," *National Development: Middle East/Africa*, March 1984, pp. 33-38.

"Allocating Risk and Incentive in Construction" (with Raymond E. Levitt and Robert D. Logcher), *Legal Handbook for Architects, Engineers and Contractors*, Vol. 2, Risk and Risk Management, ed. by Albert Dib, Clark Boardman Company, Ltd., New York, 1986, pp. 117-127.

"Coordinated Insurance for Major Construction Projects," *Legal Handbook for Architects, Engineers and Contractors*, Vol. 2, Risk and Risk Management, ed. by Albert Dib, Clark Boardman Company, Ltd., New York, 1986, pp. 129-137.

"Impact of Risk Allocation and Equity in Construction Contracts" (with James R. Dunlop and Michael M. Parker), chapter <u>in</u> *Risk Management and Procurement in Construction*, John Uff and A. Martin Odams, Editors, Centre of Construction Law and Management, King's College, London, 1995.

California Prison Capital Cost Reduction Study (with Professor Melvin Ramey, UC Davis), a report to the California State Legislature, July 1996.

"Linking Early Project Decisions with Project Outcomes (Cost, Schedule, Quality): General Performance Model" (with Paul M. Teicholz), *Center for Integrated Facility Engineering (Stanford University) Summer Program 1996*, July 28-August 2.

"Risk Management of BOT Projects in China" (with S.Q. Wang and R.L.K. Tiong), *Second International Conference on Construction Project Management*, Singapore, February 19-20, 1998, pp. 177-181.